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Datasheet for the decision of 22 January 2026

Case Number: T 0103/24 - 3.3.09

Application Number: 14729860.8

Publication Number: 3003204

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Language of the proceedings: EN

Title of invention:
DENTAL IMPLANT

Patent Proprietor:
Straumann Holding AG

Opponent:
Nobel Biocare Services AG

Headword:
Dental implant/STRAUMANN

Relevant legal provisions:
EPC Art. 54, 56, 83, 123(2)

Keyword:
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Inventive step - (yes)
Sufficiency of disclosure - (yes)
Amendments - allowable (yes)

Decisions cited:
T 1845/14

Catchword:

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Beschwerdekammern

Boards of Appeal

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Case Number: T 0103/24 - 3.3.09

D E C I S I O N
of Technical Board of Appeal 3.3.09
of 22 January 2026

Appellant: (Opponent)	Nobel Biocare Services AG Balz-Zimmermann-Str. 7 8302 Kloten (CH)
Representative:	Hoffmann Eitle Patent- und Rechtsanwälte PartmbB Arabellastraße 30 81925 München (DE)
Respondent: (Patent Proprietor)	Straumann Holding AG Peter Merian-Weg 12 4002 Basel (CH)
Representative:	Schaad, Balass, Menzl & Partner AG Bellerivestrasse 20 Postfach 8034 Zürich (CH)
Decision under appeal:	**Interlocutory decision of the Opposition Division of the European Patent Office posted on 27 November 2023 concerning maintenance of the European Patent No. 3003204 in amended form.**

Composition of the Board:

Chairman	A. Haderlein
Members:	A. Zellner
	K. Kerber-Zubrzycka

Summary of Facts and Submissions

I. The opponent lodged an appeal against the opposition division's interlocutory decision which held the main request underlying the decision under appeal to be allowable.

II. An opposition was filed on the basis of Article 100(a) EPC for lack of novelty and lack of inventive step (Articles 54 and 56 EPC), and under Article 100(b) EPC for lack of sufficiency of disclosure.

III. During the opposition proceedings, the patent proprietor defended its patent in amended form. In the appealed decision, the opposition division held that the main request met the requirements of Article 123(2) EPC. The opposition division admitted the objection based on Article 83 EPC, as it considered it *prima facie* relevant, and concluded that the main request met the requirements of Article 83 EPC. The opposition division further concluded that the process according to claim 10, as well as the dental implant according to claim 1 of the main request were novel in view of the disclosure of documents D1, D6, the SLActive® Implant (document D2) and TiUnite® Implants, and involved an inventive step in view of the disclosure of any of documents D1, D2, D6, D8 or the prior uses SLActive® or TiUnite® as closest prior art. The opposition division also admitted document D14 into the proceedings.

IV. The following documents are referred to:

D1: EP 1 825 830 A1
D2: "Basic information on the surgical

procedure. Straumann Dental Implant System", Straumann 2010

D3: Wennerberg A., Albrektsson T.; "Effects of titanium surface topography on bone integration: a systematic review", Clin. Oral Impl. Res. 20 (Suppl. 4), 2009, 172-184

D4: L. Le Guehennec et al.; "Surface treatments of titanium dental implants for rapid osseointegration", Dental Materials 23 2007, 844-854

D5: Wennerberg A. et al.; "Nanostructures and hydrophilicity influence osseointegration: a biomechanical study in the rabbit tibia", Clin. Oral Impl. Res. 25, 2014, 1041-1050

D6: US 2005/0113834 A1

D8: WO 2013/056844 A1

D13: Annex 1, filed by the patent proprietor on 16 February 2022

V. The main request (patent as held allowable by the opposition division) comprises two independent claims 1 and 10, which read as follows:

"1. A dental implant comprising a dental implant basic body (10) extending along a longitudinal axis A from an apical end (12) to a coronal end (14) arranged opposite to the apical end, said dental implant basic body comprising
an anchoring part (16) facing the apical end and intended to be anchored in bone of a patient, and
a head part (18) facing the coronal end and intended to form the basis on which a suprastructure is mounted,
said anchoring part comprising a shaft (20) having a basic form that is substantially cylindrical or that tapers in the direction toward the apical end in a cone-like manner,

at least a portion of the shaft forming a bone tissue contact region (22), the outer surface of which forming a bone tissue contact surface (30), and coronally to said bone tissue contact region a soft tissue contact region (24) being arranged, the outer surface of which forming a soft tissue contact surface (32),
wherein the dental implant further comprises nanostructures formed on the soft tissue contact surface, said soft tissue contact surface on which the nanostructures are formed being smooth when regarded in macroscopic and microscopic scale,
characterized by said nanostructures extending in at least two dimensions to 200 nm at most and having an average length-to-diameter ratio ranging from 1.5 to 1 to 4 to 1."

"10. Process for providing sites of improved protein adherence on a dental implant basic body (10) extending along a longitudinal axis A from an apical end (12) to a coronal end (14) arranged opposite to the apical end, said dental implant basic body comprising
an anchoring part (16) facing the apical end and intended to be anchored in bone of a patient, and
a head part (18) facing the coronal end and intended to form the basis on which a suprastructure is mounted, said anchoring part comprising a shaft (20) having a basic form that is substantially cylindrical or that tapers in the direction toward the apical end in a cone-like manner,
at least a portion of the shaft forming a bone tissue contact region (22), the outer surface of which forming a bone tissue contact surface (30), and coronally to said bone tissue contact region a soft tissue contact region (24) being arranged, the outer surface of which forming a soft tissue contact surface (32),
wherein nanostructures are grown on the soft tissue

contact surface by treating the soft tissue contact surface with an aqueous solution, said soft tissue contact surface on which the nanostructures are grown being smooth when regarded in macroscopic and microscopic scale."

VI. The appellant's arguments can be summarised as follows.

- Claim 1 of the main request was not based on the application as filed. Figure 2 of the patent should not have been maintained.

- There was a lack of sufficiency of disclosure.

- The dental implant of claim 1 and the process of claim 10 were not novel in view of documents D1 and D2.

- There was a lack of inventive step starting from any of documents D1, D2, D6 or D8. Since there was no evidence of a particular technical effect caused by the respective distinguishing features, the technical problem was the provision of an alternative implant. This problem was solved in an obvious way.

VII. The respondent's arguments can be summarised as follows.

- The requests were based on the application as filed, and figure 2 did not have to be deleted.

- The invention was sufficiently disclosed.

- The claimed subject-matter was novel; the cited prior art in particular did not disclose a smooth

soft tissue contact surface with nanostructures of the claimed dimensions.

- The claimed subject-matter also involved an inventive step; the prior art did not suggest a dental implant having a smooth soft tissue contact surface with nanostructures of the claimed dimensions.

VIII. The appellant (opponent) requests that the decision under appeal be set aside and that the patent be revoked.

IX. The respondent (patent proprietor) requests that the appeal be dismissed. As an auxiliary measure, it is requested that the patent be maintained in amended form, based on auxiliary requests 1 to 12 (filed with the reply to the statement setting out the grounds of appeal), or auxiliary requests 13 to 20 (filed on 7 July 2025).

Reasons for the Decision

Main request (patent as held allowable by the opposition division)

Amendments (Article 123(2) EPC)

1. The appellant argued that the opposition division erred in finding that claim 1 of the main request was based on the application as filed. In the appellant's view, the subject-matter of claim 1 could only be arrived at by making two selections from the disclosure of the application as filed and by combining the resulting features. A first selection had to be made from page 5 of the description as filed, namely the feature

relating to the smoothness of the soft tissue surface. A second, separate selection concerned the average length-to-diameter ratio disclosed in original claim 7. The appellant submitted that this two-fold selection, and the subsequent combination of the selected features, had no basis in the application as filed. Consequently, the claimed implant was not directly and unambiguously disclosed, and the main request contravened Article 123(2) EPC.

The appellant further argued that the maintenance of figure 2 as depicting an embodiment falling within the scope of the claimed subject-matter, *i.e.* its unamended inclusion in the documents for maintaining the patent in amended form ("Druckexemplar"), also infringed Article 123(2) EPC. According to the appellant, the application as filed did not disclose that the examples and figure 2 also satisfied the specific length-to-diameter ratio according to claim 1 of the main request.

With respect to the dependent claims, the appellant referred to the arguments brought forward during the opposition proceedings.

2. These submissions are not convincing for the following reasons.

2.1 Claim 1 of the main request is based on claim 1 as filed and contains the additional features:

"... said soft tissue contact surface on which the nanostructures are formed being smooth when regarded in macroscopic and microscopic scale, ..." and

"... and having an average length-to-diameter ratio

ranging from 1.5 to 1 to 4 to 1."

2.2 The board notes that the first of these features is disclosed on page 5, lines 1 to 8, of the application as filed. Although the initial part of this passage refers to a particularly preferred embodiment, its use in claim 1 does not require any selection from among several equivalent alternatives. In particular, the board does not consider that the cited disclosure presents a list of options from which a specific element must be singled out. Rather, the passage provides a direct and unambiguous basis for the feature relied upon.

2.3 The second feature, concerning the average length-to-diameter ratio, finds a basis in original claim 7. This ratio is presented as the most preferred range within a cascade of ranges. Accordingly, no selection from a list of equally weighted alternatives is required. Moreover, as acknowledged by the appellant (see paragraph (15) of the statement of grounds of appeal), *"this range is clearly disclosed for all kinds of surface roughness"*. The board concludes that the disclosed ratio therefore applies equally to the particularly preferred features set out on page 5 of the description as filed.

2.4 The board does not consider that the combination of these features results from a two-fold selection from lists of equal alternatives of a certain length disclosed in the application as filed.

2.5 Considering the appellant’s arguments regarding figure 2 of the patent in suit, the board agrees with the opposition division's assessment. The figure represents a two-dimensional drawing of an image obtained by FESEM

(see page 13 of the application as filed) and is therefore unsuitable for deriving concrete length-to-diameter ratios of three-dimensional structures. Since no measurable information can be derived, the figure cannot contradict the claimed dimensions of amended claim 1, or claim 1 as filed. The maintenance of figure 2 in unamended form therefore does not infringe Article 123(2) EPC.

2.6 With respect to the appellant’s objections concerning the dependent claims, the board notes that these objections have not been substantiated (see point (22) of the statement of grounds of appeal). The board further observes that paragraph (8) of the opponent’s submission dated 11 August 2023, to which the statement of grounds of appeal refers in a footnote, likewise contains no substantiation in this regard. Rather, that paragraph merely asserts that the dependent claims contravene Article 123(2) EPC on account of their dependency on claim 1, which is alleged to infringe this provision. However, as set out above, the board does not share this view on claim 1. Since the objection is purely derivative and the board has found claim 1 to comply with Article 123(2) EPC, this objection to the dependent claims must likewise fail.

3. For these reasons, the board concludes that the main request meets the requirements of Article 123(2) EPC.

Sufficiency of disclosure (Article 83 EPC)

4. According to the appellant, the opposition division's conclusion that the contested patent disclosed the claimed invention in a manner sufficiently clear and complete for it to be carried out by a person skilled in the art was erroneous. The appellant submitted, as

in the opposition proceedings, that the patent did not provide sufficient guidance for the skilled person on how to:

(i) determine the average length-to-diameter ratio,
(ii) obtain and adjust the average length-to-diameter ratio,
(iii) determine whether the soft tissue contact surface is smooth when regarded in macroscopic and microscopic scale,
(iv) form nanostructures on materials other than titanium implants.

5. The appellant's line of argument is not convincing for the following reasons.

5.1 The dental implant according to claim 1 of the main request comprises nanostructures on the soft tissue contact surface, which have an average length-to-diameter ratio ranging from 1.5 to 1 to 4 to 1. The soft tissue contact surface is smooth when regarded in macroscopic and microscopic scale. The implant is not limited to a particular material. The board notes that the appellant provided no verifiable facts to support the objection.

5.2 The appellant argued that the skilled person was not able to determine the length-to-diameter ratio, in particular because there was no method which allowed the length or diameter of a nanostructure to be identified, since both of these dimensions could be chosen in an arbitrary manner.

5.3 This argument is not convincing. It was not disputed that the skilled person can measure structures on a

nanometre scale (see document D3, left column on page 180, and D8, page 13). It is also noted that document D8 discloses the relative orientation of a nanostructure's diameter and length (see page 8, lines 7 to 10).

5.4 It is also not convincing that a ratio which was determined by attempting to derive such ratios from figure 2 and which does not fall within the range according to claim 1 provides evidence that the length-to-diameter ratio according to claim 1 cannot be obtained. Figure 2 is an example drawing provided for illustrative purposes and does not provide exact data, since it does not accurately represent the data.

5.5 The appellant furthermore argued that the contested patent did not provide any information as to how a particular morphology, *i.e.* the required average length-to-diameter ratio of the nanostructures, could be obtained.

5.6 The board notes that the contested patent, in particular in paragraphs [0038] to [0056] and in the examples, provides information on the materials to be used and preparation methods for obtaining the desired structures. The appellant did not provide any arguments, let alone evidence, as to why the skilled person, when following this teaching, would be unable to obtain nanostructures of the dimensions defined in claim 1. Decision T 1845/14 referred to by the appellant in this context does not support the appellant's case. In particular, the board does not see any contradiction between two definitions of a parameter contained in the patent (cf. Reasons 11.2 of T 1845/14).

5.7 According to the appellant, the skilled person could not determine whether the soft tissue contact surface was smooth when regarded in macroscopic and microscopic scale. The appellant argued that the term *"smooth"* was relative and the contested patent did not provide a method for determining whether or not a specific structure fell within the claimed scope. Furthermore, the prior art, e.g. documents D3 and D4, did not use uniform parameters.

5.8 This argument is not convincing. Even if, as acknowledged by the respondent, the contested feature might at most raise an issue of clarity, which is not an option at this stage of the proceedings for granted claims, this does not prevent the skilled person from preparing a dental implant according to claim 1 or from carrying out the process of claim 10 of the main request. The board further notes that the claim does not refer to the term *"smooth"* in isolation, but to the feature *"smooth when regarded in macroscopic and microscopic scale"*.

5.9 The appellant argued, in particular by reference to claim 14 of the main request, that the contested patent did not contain any information as to the preparation of dental implants according to claim 1 which were not based on titanium or an alloy thereof, such as ceramic materials.

5.10 The board notes that neither claim 1, nor claim 10 or any of the dependent claims contains a reference to dental implants made of ceramic materials. Also, sufficiency does not require that all embodiments within a claim work. Furthermore, paragraphs [0038] to [0040] disclose materials which can be used as the basic body. The appellant did not provide any evidence

that the use of these materials does not lead to dental implants according to claim 1, nor has it been shown that other materials are not suitable.

6. The board thus concludes that the main request meets the requirements of Article 83 EPC.

Novelty (Article 54 EPC)

7. According to the appellant, the opposition division's decision to acknowledge novelty for the process according to claim 10 with respect to documents D1 and D2, and for the dental implant according to claim 1 with respect to documents D1 and D2 (SLActive® implants), was erroneous.

8. The board makes the following observations.

Claim 1

8.1 The appellant challenged the opposition division's conclusion concerning the following features:

"... wherein the dental implant further comprises nanostructures formed on the soft tissue contact surface, said soft tissue contact surface on which the nanostructures are formed being smooth when regarded in macroscopic and microscopic scale,

characterized by said nanostructures extending in at least two dimensions to 200 nm at most and

having an average length-to-diameter ratio ranging from 1.5 to 1 to 4 to 1.",

and argued that these features were not disclosed in

documents D1 and D2 in combination with the remaining features of claim 1 of the main request.

8.2 The board makes the following observations.

8.2.1 According to claim 1 of the main request, the soft tissue contact surface of the claimed dental implant, on which the nanostructures of a specific length-to-diameter ratio are formed, is *"... smooth when regarded in macroscopic and microscopic scale ..."*.

8.2.2 Document D1 discloses in claim 11 that the soft tissue contact surface is treated with an electrolytic or chemical etching procedure. According to example 2, this is done after electropolishing the surface (see paragraph [0038], lines 43 to 53; see also claim 12). The board considers that the soft tissue contact surface will not remain microscopically smooth after this treatment, since acid etching - according to paragraph [0026] of the contested patent - leads to a microscopic topography. Even if, as submitted by the appellant, the term *"smooth"*, being a relative term, should be interpreted broadly, claim 1 requires the nanostructures to be formed on a soft contact tissue surface that is *"... smooth when regarded in macroscopic and microscopic scale ..."*. The board does not agree with the appellant's interpretation that the feature either has to be disregarded due to lack of clarity, or could at most provide a distinction over very rough surfaces (see point (89) of the statement setting out the grounds of appeal). It is noted that claim 1 of the main request does not refer to *"smooth"* as such, but to smooth in relation to a macroscopic and microscopic scale.

8.2.3 The board thus concludes that the contested feature is not disclosed in document D1, and that the implant according to claim 1 of the main request is novel over the disclosure of document D1.

8.2.4 Document D2 discloses SLActive® titanium or titanium alloy implants (see in particular implants 033.031S and 033.151S on pages 3 and 4). The appellant argued that these implants have a smooth soft tissue contact surface when regarded in macroscopic and microscopic scale. Referring to document D5, the appellant further argued that - due to shipment of the implants in sodium chloride solution (see paragraph 4.2 of D2) - nanostructures were formed on the entire surface, including the smooth soft tissue contact surface, and that the nanostructures formed had a length-to-diameter ratio of from 1.5 to 1 to 4 to 1.

8.2.5 The respondent did not contest that the implants disclosed in D2 comprise a surface that is *"... smooth when regarded in macroscopic and microscopic scale ..."* (see paragraphs 1.2.1 and 1.2.2 of document D2).

8.2.6 The parties disagreed on whether D2 discloses nanostructures on the smooth surface, and in particular whether document D5 provides evidence thereof.

8.2.7 It was undisputed that document D2 does not explicitly disclose a dental implant having nanostructures on a smooth surface.

8.2.8 Document D5 discloses, as submitted by the appellant, that nanostructures form on SLActive® surfaces when these surfaces are stored in 0.9% NaCl solution at pH 4 to 6. Nanostructures were not formed on those SLA surfaces which did not undergo the storage treatment

(see page 1044, figures 3(c) and 3(a) and page 1042, middle column, "Group B: SLActive®"). It is also correct that document D5 discloses that the investigated surfaces correspond to commercially available SLA® and SLActive® implant surfaces. It was undisputed that the implants referred to were those disclosed in document D2 (see page 1042, middle column, last paragraph before *"Surface characterization"*). However, document D5 relates to a study on disc shaped objects (see page 1042, left-hand column, *"Material"*). These discs are, as submitted by the respondent, different from the dental implants disclosed in document D2. In particular, document D5 does not disclose that the discs used in the study comprise a smooth surface. Furthermore, the aim of the study is to investigate the effects of specific surfaces on osseointegration. There is no mention of soft tissue integration in D5. Document D5 does not, therefore, disclose the formation of nanostructures on the smooth soft tissue surfaces of the implants of D2.

8.2.9 The appellant argued that, by applying the conditions disclosed in document D5, it was highly probable that nanostructures would also form on the SLActive surface dental implants disclosed in D2, and would thus also do so under the conditions used for shipping the implants disclosed on page 44 of D2.

8.2.10 The board does not see any evidence for this argument. In addition, the formation of nanostructures depends on conditions which are not disclosed in document D2, such as pH of the storage solution and storage time (see document D13). The board does not agree with the appellant's argument that at least a certain amount of nanostructures would be formed irrespective of storage time and pH. Other than the use of a sodium chloride

solution, document D2 does not provide any information at all on storage and shipping conditions.

8.3 For these reasons, the board concludes that the dental implant according to claim 1 of the main request is novel in view of the disclosure of document D2 or the use of the SLActive® implants disclosed therein.

Claim 10

8.4 The board also concludes that the process according to claim 10 of the main request is novel over the disclosure of documents D1 and D2. These documents do not disclose the feature *"... nanostructures are grown on the soft tissue contact surface (...) being smooth when regarded in a macroscopic and microscopic scale ..."* (see points 8.2.2 and 8.2.8 of this decision).

8.5 For these reasons, the opposition division's evaluation of novelty is correct, and the board concludes that the main request meets the requirements of Article 54 EPC.

Inventive step (Article 56 EPC)

9. The appellant submitted that the opposition division's decision was erroneous in that it acknowledged the presence of an inventive step. During the oral proceedings before the board, the appellant argued lack of inventive step starting from the disclosure of either document D1 or document D2 as the closest prior art.

The appellant submitted that, assuming that D1 did not disclose nanostructures on a *"smooth"* surface in the implant of example 2, D1 nevertheless suggested

applying different surface treatments to different regions of a dental implant. In particular, paragraph [0008] disclosed that a polished soft tissue contact surface was preferred in order to prevent inflammation caused by bacterial infection. According to the appellant, the skilled person would therefore consult document D8.

Document D8 disclosed that the formation of a protein layer on the contact surface of an implant is important for osseointegration (see page 2, lines 21 to 28). It further disclosed that the presence of nanostructures enhances protein adsorption (see page 9, lines 14 to 21), in particular nanostructures having particular dimensions (see page 8, lines 2 to 10 of document D8). The skilled person would thus, in the appellant's view, provide a dental implant according to claim 1 of the main request. The appellant argued that the same reasoning applied when considering document D2 as the closest prior art.

In the written proceedings, the appellant also argued a lack of inventive step starting from documents D6 or D8 as the closest prior art. With respect to D6, the appellant relied on the differing feature of the average length-to-diameter ratio of the nanostructures; with respect to D8, it relied on the structural design features of the implant. The appellant submitted that there was no evidence of any particular technical effect associated with the distinguishing features, and that the objective technical problem could therefore only be formulated as the provision of an alternative implant (starting from D6) or the identification of a suitable implant design (starting from D8). The appellant considered the corresponding solutions to be obvious in view of the prior art, in particular in view

of documents D1, D6, D7, D8 or D14.

10. For the following reasons, the board concludes that the provision of a dental implant according to claim 1 does involve an inventive step, as does a process according to claim 10 of the main request.

10.1 Document D1 discloses a dental implant having a bone contact surface and a soft tissue contact surface (see claim 1). The implant obtained in example 2 of D1 comprises a surface structure which is not smooth when regarded in macroscopic and microscopic scale. The distinguishing feature over D1 thus resides in the soft tissue contact surface on which the nanostructures are formed being smooth when regarded in macroscopic and microscopic scale (see points 8.2.2 and 8.2.3 above). Assuming, to the appellant's benefit, that this distinguishing feature between the dental implant according to claim 1 of the main request and the implant disclosed in D1 does not lead to a particular technical effect, the objective technical problem is at least the provision of an alternative dental implant.

10.2 It is correct, as submitted by the appellant, that document D8 discloses that contact surfaces having nanostructures with dimensions according to claim 1 of the main request are advantageous for osseointegration of dental implants. However, this disclosure of D8 concerns the contact surface between an implant and bone tissue (see page 9, lines 8 to 13 and page 2, lines 21 to 28). Document D8 does not suggest providing dental implants having nanostructures formed on the soft tissue contact surface because the discs used in D8 do not include any soft tissue contact region (see page 10, line 6). Furthermore, document D1 teaches that the soft tissue contact surface should be smooth in

order to prevent plaque formation and bacterial retention on the implant surface. The skilled person avoids roughening soft tissue surfaces because D1 teaches that smoothness prevents bacterial colonisation.

10.3 Therefore, document D8 does not suggest modifying the soft tissue contact surface of the implant disclosed in example 2 of D1 by providing an implant with a soft tissue contact surface on which the nanostructures are formed, said soft tissue contact surface being smooth when regarded in macroscopic and microscopic scale.

10.4 The same holds true when considering document D2 as closest prior art, since the distinguishing feature between the implant according to claim 1 of the main request and the implants disclosed in documents D1 and D2 is the same, namely the presence of nanostructures formed on a soft tissue contact surface that is smooth when regarded in macroscopic and microscopic scale (see points 8.2.7 and 8.2.8).

10.5 Document D2 discloses SLActive® titanium or titanium alloy implants. The appellant argued that nanostructures would inevitably form on the smooth soft tissue contact surface under the storage conditions disclosed in D2, in particular in view of document D5.

10.6 As set out above, document D2 does not disclose nanostructures on the smooth surface of these implants, and document D5 does not provide evidence that such nanostructures would form on the soft tissue contact region of the implants of D2 under the circumstances of their storage or shipment.

10.7 The appellant’s argument that nanostructures would nevertheless form on the SLActive® implants of D2 irrespective of the storage time or the pH of the storage solution is unsubstantiated. Document D2 itself provides no information beyond the use of a sodium chloride solution and does not disclose the parameters identified in D5 as critical for nanostructure formation, such as pH and storage duration.

10.8 The board therefore considers that the distinguishing feature of claim 1 — namely the presence of nanostructures of specific dimensions formed on a soft tissue contact surface which is smooth when regarded in macroscopic and microscopic scale — is not disclosed in D2 and is not rendered obvious by the teaching of D5. It is noted that the discs disclosed in D5 do not contain polished soft-tissue regions. Moreover, the conditions of D5 are not those applied in D2 and therefore there is no reasonable expectation of nanostructure formation on D2 soft tissue surfaces.

10.9 Since the appellant relied on the same line of argument as for D1, and since document D8 does not suggest modifying the soft tissue contact surface by providing nanostructures on a surface which, according to D1, should be smooth to prevent plaque formation, the appellant's inventive-step attack starting from D2 must likewise fail.

10.10 The appellant's arguments starting from documents D6 or D8 as the closest prior art are likewise not convincing.

10.10.1 Document D6 discloses dental implants having at least a bone contact surface and a soft tissue contact surface, the latter having at least partially a ceramic

coating(see claim 1 and paragraph [0031]). According to paragraph [0026] of D6, the surface of the ceramic coating is preferably at least partially roughened, *i.e.* not smooth when regarded in macroscopic and microscopic scale.

10.10.2 The distinguishing feature between the implant according to claim 1 of the main request and the disclosure of D6 is therefore the same as that identified for document D1 (see above). Accordingly, the conclusion drawn in relation to D1 as closest prior art applies equally to D6.

10.10.3 The provision of a dental implant according to claim 1, and of a process according to claim 10 of the main request therefore also involves an inventive step when starting from document D6 as the closest prior art.

10.10.4 Document D8 discloses dental implants and is primarily concerned with osseointegration, *i.e.* the connection between an implant surface and bone tissue. The document is not concerned with implants comprising a soft tissue contact surface, in particular does not disclose a dental implant having both a bone tissue contact region and a soft tissue contact region. The document is less suitable as closest prior art than D1, D2 or D6, in particular because it only addresses the problem of osseointegration. Furthermore, although D8 discloses the presence of nanostructures on an implant surface (see claim 8), the surface is not smooth when regarded in macroscopic and microscopic scale (see point 10.2 above).

10.10.5 Therefore, the distinguishing feature between the implant according to claim 1 of the main request and the disclosure of D8 is again the same as that

identified with respect to D1 (see above), and the conclusion drawn with respect to D1 as the closest prior art applies equally to D8.

10.10.6 The provision of a dental implant according to claim 1, and of a process according to claim 10 of the main request, therefore also involves an inventive step when considering D8 as the closest prior art.

11. For these reasons, the opposition division's evaluation of inventive step is correct, and the main request meets the requirements of Article 56 EPC.

Conclusion

12. Since none of the objections brought forward by the appellant prejudices the maintenance of the patent, the appeal must be dismissed.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

K. Götz-Wein A. Haderlein

Decision electronically authenticated